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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,811

03/04/2005

Shridhar Mubaraq Mishra

1890-0206

5796

50255

7590

04/04/2008

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EXAMINER

RUTKOWSKI, JEFFREY M

ART UNIT

PAPER NUMBER

2619

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/526,811	<b>Applicant(s)</b> MISHRA ET AL.	
	<b>Examiner</b> JEFFREY M. RUTKOWSKI	<b>Art Unit</b> 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 5-7,9-11 and 13-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-7,9-11 and 13-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

**Claims 1-4, 8 and 12** have been cancelled.

#### *Specification*

1. The disclosure is objected to because of the following informalities: the specification recites the use of Layer 3 “command data packets” transferred between switches. The specification has not indicated as to whether or not the switches are capable of operating at Layer 3 of the Open Systems Interconnect (OSI) model. It appears switches described in the specification are purely Layer 2 devices since the switches are transferring Bridge Protocol Data Units (BPDU) [**Specification, page 11 Section 3**]. As is known in the art, BPDUs are used at Layer 2 as in the case of the Spanning Tree Protocol.

Appropriate correction is required.

#### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 5-14** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The use of the phrase “command data packets” renders the claim indefinite because the switches in the Specification appear to only be Layer 2 devices because messages are passed among the switches using BPDUs. | \_\_\_\_\_

**Comment [HK1]:** This is not a proper 112 2nd p rejection. What is it exactly that make the claim indefinite, i.e. not understood or vague etc...

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. **Claims 5-7, 13-14 and 15-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Egbert (US Pat 6,714,556) in view of Sylvest et al. (US Pat 6,954,437), hereinafter referred to as Sylvest.

7. For **claim 5**, Egbert teaches a network of multiport switches [**col. 3 lines 15-35 and figure 2**]. Each switch in the network is identified by a MAC address [**col. 4 lines 12-25**] (data switches, each data switch having a plurality of ports adapted for receiving and transmitting packets and arranged for transferring data packets internally between the ports of the data switches according to address information in the packets). A master CPU **46a** then uses frames to send the execution command instructions to a set remaining host processing units (slave switches) [**col. 3 lines 37-46**], via backbone link **48** [**col. 3 lines 30-33**]. Upon reception of the frames containing execution instructions, the remaining host processing units perform the

specified operation [**col. 4 line 28**] (the network of data switches including a master switch and other data switches, the master switch configured to issue commands to the other data switches, the commands in the form of control data packets, the other data switches comprising slave data switches configured to recognize the control data packets and to operate based on the commands contained within the control data packets).

8. Egbert does not teach the switches are connected in pairs. Sylvest teaches the switch pair interconnect limitation absent from the teachings of Egbert by disclosing a stack of switches connected in a pair wise fashion [**figure 1**] (the data switches being connected as an array, the array formed by connections between ports of pairs of the switches). It would have been obvious to a person of ordinary skill in the art at the time of the invention to interconnect pairs of switches in Egbert's invention to allow for a simple intra-connect physical layout.

9. The combination of Egbert and Sylvest disclose a master-slave network [**Egbert, figure 2**] that uses forwarding techniques to transmit information between switches [**Sylvest, col. 2 lines 57-65**].

10. For **claims 6, 13 and 15**, Egbert teaches the use of master switch. Egbert does not teach a master determines the topology of a network. Sylvest teaches a master switch accesses adjacencies in a distributed dictionary. The adjacencies are used by a graph-theory algorithm to create the network topology [**col. 8 lines 54-57**] (claim 13: determining at the master data switch a topology of the network of data switches; claim 15: determining, under the control of the master data switch, a topology of the network of data switches). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a master switch to create a network topology in Egbert's invention to determine the shortest paths in a network.

11. For **claim 7**, which depends from **claim 5**, the teachings of Egbert from the rejections of **claims 9 and 10** disclose when the proper host processing unit receives a command frame, the specified operation is performed (wherein each slave data switch is further configured implement a command within a control data packet if the slave data switch determines that the control data packet is intended to cause the command to be carried out at the slave data switch).

12. For **claim 8**, which depends from **claim 7**, Egbert teaches command frames are forwarded to the proper host processing unit matching the MAC address in the command frame via forwarding among host processing units [**col. 4 lines 15-20**] (wherein a first slave data switch is further operable to pass a control data packet from the first slave data switch to a second slave data switch if the first slave data switch determines that the control data packet is not intended to cause the command to be carried out at the first slave data switch).

13. For **claim 9**, Egbert teaches in-band management of a stacked group of switches by a single Central Processing Unit (CPU) [**title**]. A master CPU **46a** (master switch) receives execution command instructions from a remote manager **20**. The master CPU **46a** then uses frames to send the execution command instructions to a set remaining host processing units (slave switches) [**col. 3 lines 37-46**], via backbone link **48** [**col. 3 lines 30-33**] (employing at least one port of a master data switch of the plurality of data switches to issue command packets to slave data switches of the plurality of switches; employing at least one port of each of the slave data switches to receive the command packets). Upon reception of the frames containing execution instructions, the remaining host processing units perform the specified operation [**col. 4 line 28**] (recognizing within the slave data switches the command packets and implementing commands specified in the command packets).

14. Egbert does not teach the use of forwarding techniques. Sylvest teaches a switch network that uses forwarding techniques to transmit information among the different switches of a network [**col. 2 lines 57-65**]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use packet forwarding in Egbert's invention to enable the flow of information from a source to a destination.

15. For **claim 10**, the combination of Egbert and Sylvest disclose packet forwarding where MAC addresses are used determine whether or not a particular host processing unit is the intended destination of a command frame [**Egbert, col. 4 lines 12-25**].

16. For **claim 11**, the teachings of Egbert from the rejections of **claims 9 and 10** disclose when the proper host processing unit receives a command frame, the specified operation is performed (further comprising implementing the command at the first slave data switch if the first slave data switch determines that the command packet is intended to cause the command to be carried out at the first slave data switch).

17. For **claims 14 and 16**, Egbert teaches host processing units in the network are identified by MAC address [**see claim 10**] (further comprising assigning IDs to the slave data switches, said IDs included in subsequent packets passing between the switches within the network of data switches).

#### ***Response to Arguments***

18. In response to applicant's argument that there is no motivation to combine the references, the examiner recognizes that one way to show obviousness is to combine or modify the teachings of the prior art to produce the claimed invention where there is some teaching,

suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). Both Egbert and Sylvest deal with the interconnection of switches in an Ethernet environment. Egbert discloses that there are other ways to arrange the switches [col. 4 lines 35-40], suggesting that other switch interconnection topologies exist. Sylvest discloses a switch topology [Sylvest, figure 1] that is essentially the same topology used in Egbert's invention [Egbert, figure 2]. Therefore, a person of ordinary skill in the art would be driven to Sylvest's invention to determine the other switch topologies that can be used by Egbert's invention.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY M. RUTKOWSKI whose telephone number is (571)270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey M Rutkowski  
Patent Examiner  
03/21/2008

/Hassan Kizou/

Supervisory Patent Examiner, Art Unit 2619